

DEVICES AND METHODS FOR INTRACARDIAC PROCEDURES

ABSTRACT OF THE DISCLOSURE

The invention provides devices and methods for performing less-invasive surgical procedures within an organ or vessel. In an exemplary embodiment, the invention provides a method of closed-chest surgical intervention within an internal cavity of a patient's heart or great vessel. According to the method, the patient's heart is arrested and cardiopulmonary bypass is established. A scope extending through a percutaneous intercostal penetration in the patient's chest is used to view an internal portion of the patient's chest. An internal penetration is formed in a wall of the heart or great vessel using cutting means introduced through a percutaneous penetration in an intercostal space in the patient's chest. An interventional tool is then introduced, usually through a cannula positioned in a percutaneous intercostal penetration. The interventional tool is inserted through the internal penetration in the heart or great vessel to perform a surgical procedure within the internal cavity under visualization by means of the scope. In a preferred embodiment, a cutting tool is introduced into the patient's left atrium from a right portion of the patient's chest to remove the patient's mitral valve. A replacement valve is then introduced through an intercostal space in the right portion of the chest and through the internal penetration in the heart, and the replacement valve is attached in the mitral valve position.